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ABSTRACT

The relative efficacy of both group and individual cognitive behavior therapeutic approaches in treating anxiety and depression are evaluated and then compared to an interpersonal group therapy approach. The two major hypotheses are that group cognitive behavior therapy is at least as effective as individual cognitive behavior therapy, and that group or individual cognitive behavior therapy is significantly more effective than interpersonal group therapy. The 44 subjects, ranging in age from 21 to 41, were all seeking relief from symptoms of anxiety and/or depression. They were randomly assigned to one of three treatment modalities: (1) cognitive behavior therapy group, (2) interpersonal group therapy or (3) individual cognitive behavior therapy. The three treatments were compared as to their efficacy with this patient population. Results indicated that cognitive behavior therapy in a group format was as effective as individual cognitive behavior therapy in producing significant improvement in depression, anxiety, and assertiveness. All three experimental groups improved significantly from pre to post treatment on all dependent measures. An inverse relationship was found between depression and assertiveness and between anxiety and assertiveness on both pre- and post-treatment measures.
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COGNITIVE BEHAVIOR THERAPY: A COMPARISON OF GROUP AND INDIVIDUAL FORMATS

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INTRODUCTION

The primary purpose of this study is to evaluate the relative efficacy of both group and individual Cognitive Behavior therapeutic approaches in treating anxiety and depression. A secondary purpose is to compare these treatments to an interpersonal group therapy approach.

The central assumption underlying Cognitive therapy is that the "affective response of an individual is determined by the way he structures his experiences" (Beck, 1967). The techniques of Cognitive therapy are described in detail in a guide to treatment (Beck, Rush, Shaw and Emery, 1978). The Cognitive therapist helps patients to recognize the relationship between thoughts, affect and behavior. Patients are then taught to monitor negative cognitions and examine the evidence supporting them. Finally, ways to substitute more rational interpretations for distorted thinking are presented. In addition, Cognitive therapy includes homework assignments to give clients practice in recognizing, challenging and modifying negative cognitions.

Several outcome studies have compared the effectiveness of cognitive therapy with waiting list controls and other psychotherapy comparison groups. Subjects have included both depressed college student volunteers (Shipley and Fazio, 1973; Gioe, 1975; Taylor and Marshall, 1977) and depressed psychiatric clinic patients (Morris, 1975; Schmickley, 1977). Some investigators have employed a group format (Shipley and Fazio, 1973; Gioe, 1975; Morris, 1975; and Shaw, 1977), while others used individual cognitive therapy (Schmickley, 1975; Rush et al, 1977; and Taylor and Marshall, 1977). Generally, regardless of format, Cognitive therapy has been found to be more effective than the various other treatments (Beck et

al, 1978). A description of Cognitive therapy can be found in Cognitive Therapy and the Emotional Disorders (Beck, 1976). To date, no published studies have examined how the format (group or individual) affects the outcome of Cognitive Behavior Therapy treatment. Rush and Watkins (1978) have done an unpublished pilot study in this area comparing group versus individual Cognitive therapy. Also Shaw and Hollon (1978) in another unpublished study, compared Cognitive group therapy to individual therapy that had been performed as part of an earlier study (Rush et al, 1977). Treatment outcomes for these two studies were similar in that individual Cognitive therapy appeared to produce a greater reduction indepressive symptomatology than group Cognitive therapy. However, both group and individual treatments were associated with significant remission of symptoms. These results are not considered conclusive, however, since in the Shaw and Hollon study patients were not randomly assigned to treatments and in the Rush and Watkins study, the group patients were not part of the same randomly assigned subject pool as the individual patients.

The present study is an attempt at a more rigorously controlled comparison of group and individual Cognitive Behavior Therapy including the behavioral techniques of progressive relaxation (Jacobson, 1962) and assertion training (Lange and Jakubowski, 1976).

Two major hypotheses are presented:

1. Group Cognitive Behavior Therapy is as effective or more effective than individual Cognitive Behavior Therapy in producing significant changes in depression, anxiety, and assertiveness.

2. Cognitive Behavior Therapy, in an individual or group format, is significantly more effective than interpersonal group therapy in producing changes in depression, anxiety, and assertiveness.

METHOD

Subjects

The sample consists of forty-four subjects who have sought relief from symptoms of anxiety and/or depression. All subjects are enrollees of the George Washington University Health Plan, a pre-paid health insurance plan (HMO). All subjects were referred to the mental health unit by their primary care teams. Each subject was then screened by a mental health therapist and found to be appropriate for brief therapy within the Health Plan. Patients who were in need of immediate individual attention (e.g. suicidal, psychotic) were excluded from the study as were patients who were not primarily anxious and/or depressed or who were unwilling to participate in the research project. Patients ranged in age from 21 to 41, with a mean age of 30. The demographic characteristcs of these Ss are reported in Table 1.

Patients were assigned on a random basis to one of the three treatment modalities: 1) Cognitive Behavior Therapy Group (CBT-gp), 2) Interpersonal Group Therapy (IGT), or 3) Individual Cognitive Behavior Therapy (CBT-ind).

Measures

1. Beck Depression Inventory (BDI). The BDI is a 21 item self-report measure which assesses numerous manifestations of depression. Each item is

scored on a range from 0 to 3 and the total possible score ranges from 0 to 63. The higher the score, the more severe the depression. The BDI was chosen because of it's careful construction and validation (Beck, 1967; Beck and Beamesderfer, 1974) and it's wide use in research on depression.

2. State-Trait Anxiety Inventory (STAI). The STAI is a 40 item self-report scale which measures two distinct anxiety concepts: 1) state anxiety (A-State Scale) and 2) trait anxiety (A-Trait Scale). The A-State scale is considered to be a sensitive indicator of the transitory anxiety experienced by patients in psychotherapy. "It has been demonstrated that scores on the A-State scale increase in response to various kinds of stress and decrease as a result of relaxation training" (Speilberger, Gorsuch, and Lushene, 1970).

The A-Trait Scale measures relatively stable individual differences in anxiety proneness, i,e. the tendency to respond to situations perceived as threatening with elevations in state anxiety. The test-retest reliability of the A-Trait scale is relatively high. As would be expected, stability for the A-State scale tends to be low as it is designed to be influenced by situational factors. Both scales have a high degree of internal consistency. The validity of the STAI has been reported elsewhere (Speilberger, Grosuch, and Lushene, 1970).

3. Adult Self-Expression Scale (ASES). The ASES is a 48 item self-report measure of assertiveness designed for use with adults. The scale was found to have high test-retest reliability and moderate to high construct validity. Concurrent validity was also established (Gay, Hollandsworth, and Galassi, 1975). The instrument was validated on a general adult population with an average age of 31 years.

All of the inventories were administered prior to an initial evaluation session (pre 1) and immediately before (pre 2) and after (post) treatment. These measures will be readministered at six and twelve month intervals from the conclusion of treatment.

4. Commitment Rating. Therapists rated each patient on a one to five commitment scale, five representing high commitment. For the co-led groups, the mean of the two ratings was used as the patient's commitment score; the two raters yielded a reliability coefficient of .82 ($z=4.41$, $p < .001$).

TREATMENT MODALITIES

All treatments were conducted by two of the authors, both clinical psychologists with several years of experience with both individual and group Cognitive Behavior Therapy. All three treatments were ten weeks in duration and met once weekly. The three treatments were run twice, once in the fall of 1978 and again in the spring of 1979.

Cognitive Behavior Therapy Group (CBT-gp). The CBT group is composed of three self-help modules: 1) Progressive relaxation (Jacobson, 1962), 2) Cognitive restructuring (Ellis, 1962; Beck, 1967), and 3) Assertion Training (Lange and Jakubowski, 1976). All three modules include didactic presentations, planned behavioral assignments and in-group technique rehearsal and feedback. The skills are taught to aid patients in preventing and/or lessening inappropriate and negative emotions such as depression, guilt, anxiety and anger as well as to promote more adaptive behaviors.

In the relaxation module, patients are taught Jacobson's progressive relaxation techniques as well as Benson's Relaxation Response (Benson, 1975) and positive imagery. This module is two weeks in length and patients are requested to practice the techniques twice daily. Patients are given examples of how the therapists themselves employ the method and suggestions for their own use of it.

Cognitive restructuring, the second module is based upon the theories of Ellis (1962) and Beck (1967). Patients are presented with the premise that exaggerated negative emotions are produced by irrational thinking. They are then taught to recognize their own unreasonable cognitions, to dispute or question them and to answer these questions with more rational statements. This skill is taught by personal examples illustrated by the co-therapists, as well as working as a group on general examples and finally individualized attention to personal problems. The homework for this module consists of filling out cognitive restructuring forms adapted by the authors from forms developed at the Institute for Rational Living, New York City, New York. In addition, group members read the New Guide to Rational Living (Ellis and Harper, 1975) and "Coping with Depression" (Beck and Greenberg, 1974). The cognitive restructuring module is four weeks in length.

The third and final module is assertion training, which is taught during the last four weeks of the group. Group members are taught to distinguish among assertive, non-assertive, and aggressive behaviors. They are also presented with reminders of their rights as human beings as well as probable consequences of assertion and non-assertion. Each patient is asked to develop three goals for his/her own assertion development which ascend in order of difficulty.

These goals are discussed in terms of their feasibility, their likelihood for success and the risks involved. When appropriate, behaviors relevant to these goals are assigned to be attempted outside the group. Behavioral components of assertion are also presented and illustrated during these sessions. In addition, problems with assertion are examined for irrational ideas which may be inhibiting the desired behavior. Group members are encouraged to role play typical scenes that are representative of these goals. Group leaders role play as well, when modeling of assertive behaviors is needed to help facilitate learning. Homework assignments for this module include reading When I Say No I Feel Guilty (Smith, 1975) and completing assertion diaries and behavior checklists

Interpersonal Group Therapy (IGT). The IGT group begins with a general introduction to group therapy concepts from a non-directive framework. The therapists in this treatment modality attempt to elicit discussion of past and current problems, to encourage group interaction and to reflect and clarify feelings in an empathetic manner. Patients are asked to report their thoughts and feelings as they experience them. The importance of active participation is stressed to the group members so as to facilitate practice in using new insights. In addition, members are encouraged to provide each other with interpersonal feedback and to focus more upon what is going on "here and now" in the group as opposed to outside problems.

Individual Cognitive Behavior Therapy (CBT-ind). Subjects in this modality were seen individually. The treatment consisted of teaching the same self-help strategies included in the CBT Group where appropriate (i.e. relaxation, cognitive restructuring and assertion training). While it would have, perhaps, been more convenient to utilize all three treatment strategies with all individual therapy

subjects, individualization is more in keeping with actual clinical practice. Consequently, the therapy was more individualized and techniques were applied according to the patient's specific presenting problem, i.e. anxiety, depression or anxiety and depression in combination.

RESULTS

Seven patients declined to participate in the study; these patients were fairly evenly distributed across treatments (3 were assigned to the Interpersonal Group, 2 to the CBT-gp, and 2 to CBT-ind). Of the patients who participated in the study, 3 elected to terminate prematurely. Again, these three patients were evenly distributed across treatment modalities.

Oneway analyses of variance were calculated for the first assessment of each dependent measure (pre 1 scores) by study (fall or spring) and also by treatment (CBT-gp, IGT, and CBT-ind). Since no significant differences were found between the fall and spring scores on any of the measures, subjects from the two parts of the study were combined for further data analyses, yielding a total N of 44. No significant differences were found between the three treatment modalities, indicating that random assignment was successful.

Mean scores and standard deviations for each dependent measure are reported by treatment modality in Table 2. Pre 1 scores on the BDI ranged from 0 to 33 with a mean of 12; most of the patients fell in the mild to moderate range for depression. Oneway analyses or variance showed no significant differences in age, marital status, education, SES, commitment, or length of treatment among the three treatment modalities.

Repeated measures analyses were computed for patients with complete and valid data on all self report measures (N=35), adjusting for the following covariates: sex, marital status, SES, attendance, commitment, length of evaluation period, and length of treatment. These results are reported in Table 3. Main effects were found for each dependent measure. All treatment modalities resulted in a significant reduction in depression, state anxiety, and trait anxiety, and a significant increase in assertiveness by the end of treatment. Neither main effects for treatments nor interactions between dependent measures and treatments were significant. Analyses of covariance between the dependent measures and the covariates were not significant.

Paired comparison t-tests were calculated for the pre 1 - pre 2 difference scores for each measure; these are reported in Table 4. A significant decrease in depression was found following the evaluation period. No significant differences between the prel - pre 2 mean scores were found for state anxiety, trait anxiety, or assertiveness.

Pearson product moment correlations for the four pre 1, pre 2, and post measures are reported in Table 5. Depression is positively and significantly correlated with state anxiety and trait anxiety. Depression, state anxiety and trait anxiety are all negatively and significantly correlated with assertiveness. These correlations are consistent across the three trials. While these correlations are significantly different from zero, their magnitudes are not high enough to suggest that only one dimension is being measures.

DISCUSSION

The results of the present study support the hypothesis that Cognitive

Behavior Therapy in a group format is as effective as Individual Cognitive Behavior Therapy in reducing symptoms of depression and anxiety and increasing assertiveness. In addition, the premature termination rates in the two conditions were very small and equal (CBT-ind = 1, CBT-gp = 1).

This result is in contrast to a prior study that compared individual and group Cognitive Behavioral treatment and found significant differences between the two formats in the reduction of depressive symptomatology (Rush and Watkins, 1978). Rush and Watkins found that group treatment resulted in a significantly poorer outcome on the Beck Depression Inventory than individual therapy alone or in combination with psychotropic medication. In addition, more patients terminated treatment prematurely when they were in group treatment than in individual therapy but that was not statistically significant. A second study comparing group to individual Cognitive Behavior Therapy (Shaw and Hollon, 1978) for groups of subjects that were not strictly comparable, found that group CBT was superior to pharmacotherapy but not as effective as individual CBT, but neither difference was significant.

There are several possible explanations for the differing results of the present study and that of Rush and Watkins (1978) as the two investigations differed in several respects. In the present study, the subjects were randomly assigned from the same population pool to the treatemnt conditions. Subjects were exposed to a combination of Cognitive Behavior therapy techniques including relaxation and assertiveness training skills. Individual and group CBT treatments were not strictly comparable in that Cognitive therapy skills, assertiveness

techniques, and relaxation skills were each specifically taught and in a fixed sequence in the group treatment condition. In individual treatment, only those techniques were taught and emphasized that were applicable to the particular client's problem and needs. Subjects were also included in the present study if they were either anxious or depressed or both. The subjects' reported degree of depression for the study overall tended to be in the mild range on the Beck Depression Inventory ($\bar{x}$ = 12) leaving little room for change. Any of these differences in assignment of subjects to treatment conditions, treatment procedures, and subject characteristics may have contributed to the different findings.

Two additional contrasts between the two studies included the expertise of the therapists and the number of treatment sessions. In the Rush and Watkins study, therapists are described as having significant experience in group therapy and having treated at best one outpatient for depression using the Cognitive Behavior therapy model. The present study employed therapists who had several years of experience using Cognitive Behavior therapy both with individuals and in groups. These therapists could therefore bring their experience to bear with the group treatment modality which may be potentially more difficult to conduct effectively. The number of treatment sessions in the present study was ten while the Rush and Watkins investigation included twenty sessions over the same time period. Those authors also report that initial symptomatic remission for both individual and group treatment was equally rapid but during the latter sessions, improvement slowed for the group patients. In the present study, that lag may never have developed because of the lower number of treat-

ment sessions.

There are important implications related to the finding that individual and group psychotherapeutic interventions on randomly assigned moderately anxious and depressed patients were of equal effectiveness. Health Maintenance Organizations provide care on a pre-paid basis, thus economies such as are obtained from group vs. individual interventions are of great importance. Such economies are reflected in decisions regarding premium rates and staffing patterns. The study findings then recommend a treatment program emphasizing group interventions for patients with moderate anxiety and depression versus an individual intervention and are likely to yield corresponding cost savings.

In general, subjects in the Cognitive Behavior therapy conditions in this study showed significant improvement on the measures of depression, anxiety, and assertion from pre to post treatment. Although no control group was employed because of ethical considerations, several prior studies have shown Cognitive Behavior therapy to be superior in efficacy to waiting list and other psychotherapy conditions (Shaw, 1977; Rush, Beck, Kovacs, & Hollon, 1977). Thus, it appears unlikely that these positive treatment effects were a result of chance factors alone.

The hypothesis that CBT treatments would result in greater significant positive change in the dependent measures than Interpersonal therapy was not supported. Two explanations are advanced to account for this lack of differential treatment effect. While the Interpersonal group was conceived to be very different from the CBT group, in this study it actually became an informal version of CBT. The same CBT oriented therapists co-led both the CBT and Interpersonal groups, thus possible confounding the results. In the Interpersonal

group, coping skills were not taught directly in a structured way, yet rational thinking was encouraged, feedback was given for coping behaviors, and assertiveness was reinforced. Role playing was not used, yet examples of appropriate responses to situations were suggested or modeled by the group.

The lack of difference between the CBT and Interpersonal groups supports the findings of Zeiss et al (1979) who found that several treatment modalities all significantly and non-differentially alleviated depression; patients did not improve differentially on the dependent variables dependent on the kind of treatment received. One possible explanation is the self-efficacy hypothesis of Bandura (1977). According to this hypothesis, the essential ingredient in therapy is the communication of a sense of self-efficacy, a sense of increased skillfulness and mastery. In the current study, patients in all treatment modalities reported significant changes in depression, anxiety, and assertiveness; that is, regardless of the specific focus of treatment, they learned to cope more effectively. The specific skills taught were important in that they resulted in an expectation of mastery and an increased sense of self-efficacy.

A further finding relates to Lewinsohn's theory of depression. Lewinsohn (1975) postulated that a low rate of response contingent positive reinforcement was likely to be associated with a depressed affect. Deficient social skills would be likely to yield such a low reinforcement rate and, thus, a dysphoric mood. Our findings of an inverse relationship between patient's scores on the BDI and the measure of assertiveness support such a theoretical understanding of the etiology and maintenance of depression. This relationship held constant for both premeasures and the postmeasures. In addition, a similar inverse relationship existed between patient scores on the anxiety inventories and

the assertiveness measures. This has implications for an understanding of the etiology and maintenance of anxiety. This finding suggests that social skill deficits can act as a potent variable in the subjective experience of anxiety.

The depression (BDI) scores between the pre 1 and pre 2 measures showed a significant decrement ($p < .01$) following a single evaluative interview. Such a finding is related to the experience of Follette and Cummings (1967) who did not assess changes in depression following evaluation and treatment, but did find that a single interview affected future medical utilization for up to five years. Rosen and Wiens (1979) found a similar significant reduction in medical care utilization following a single psychological evaluation interview. The findings of a reduced level of depression and a reduction in medical utilization are probably related in that reduced medical utilization is likely to follow a reduced level of depression. In addition, many medical visits are in a major way related to psychological dysfunction (Rosen and Wiens, 1979). Further studies measuring both medical utilization and psychological dysfunction are thus indicated.

The current study will be extended to the collection of additional data at six and twelve months following termination of treatment. These data will include the Beck Depression Inventory, the Speilberger State-Trait Anxiety Inventory, and Gay and Galassi's Adult Self-Expression Scale scores. Persistence of treatment effects over time and differential effects of the three treatment conditions over time will be examined. This long term consideration has not been previously examined in those studies exploring differential effects between group and individual CBT interventions.

Future studies in this area warrant some procedural and design changes from the present study. These include 1) standardization of both the individual and group treatment procedures to enhance the comparability of the treatment content variable, 2) employment of a more severely depressed patient sample and one that is more homogeneous with respect to symptomatology (primarily depressed vs. anxious individuals in separate groups) so that there would be more opportunity for patient improvement to be manifested, and 3) utilization of additional measures of outcome including clinician ratings of patients, ratings by peers on significant others, and measurement of patient acquisition of the specific techniques taught in therapy and specific changes sought, e.g. measures of adherence to irrational beliefs such as the Dysfunctional Attitude Scale (Weissman and Beck, 1978). This last type of assessment would be included as a process measure which would help to determine whether improvement could be accounted for by the treatment's hypothesized effect on the specific target behaviors.

TABLE 1

DEMOGRAPHIC DATA FOR SUBJECTS (N=44)

	Sex		Marital Status					Education					Social Status*				
	M	F	S	En-gaged	Mar-ried	Sep	Div	Grad-uate	BA	some College	HS	some HS	I	II	III	IV	V
%	36	64	48	2	36	11	2	36	45	14	2	2	18	23	55	5	0

*determined by the Hollingshead Two-Factor Index of Social Class (Myers & Bean, 1968)

TABLE 2

MEANS AND STANDARD DEVIATIONS ON FOUR SELF REPORT MEASURES OVER TWO PRETESTS (EVALUATION PERIOD) AND POSTTEST (TREATMENT PERIOD) FOR THREE TREATMENT MODALITIES (N=35)

Measure	CBT-Group N=10		IGT N=13		CBT-Individual N=12	
Depression						
Pre1	Mean=16.4	SD=9.0	11.4	6.2	10.8	5.2
Pre2	13.6	7.3	10.8	5.9	8.0	4.7
Post	8.3	6.3	6.5	4.9	4.5	4.3
State-Anxiety						
Pre1	54.0	9.2	50.3	12.0	47.7	8.6
Pre2	47.0	8.2	48.1	12.4	46.0	10.6
Post	36.2	18.4	40.0	10.2	40.6	12.3
Trait-Anxiety						
Pre1	53.6	7.6	46.8	9.0	50.5	5.3
Pre2	49.0	7.9	47.4	8.3	49.7	6.3
Post	41.8	9.6	42.8	10.8	43.4	7.3
Assertive-ness						
Pre1	93.1	26.5	107.2	27.5	105.4	23.2
Pre2	95.3	31.3	104.3	25.4	104.2	22.0
Post	115.2	21.5	118.1	25.0	112.8	16.3

TABLE 3

REPEATED MEASURES ANALYSES OF VARIANCE
PRE1 - PRE2 - POST

Source	df	F	tail probability
Depression	2, 64	22.23	.000
Treatments	2, 25	2.14	n.s.
Dep X Treat	4, 64	.58	n.s.
State Anxiety	2, 64	13.73	.000
Treatments	2, 25	.32	n.s.
S-Anx X Treat	4, 64	.91	n.s.
Trait Anxiety	2. 64	16.35	.000
Treatments	2, 25	.18	n.s.
T-Anx X Treat	4, 64	1.29	n.s.
Assertiveness	2, 64	15.03	.000
Treatments	2, 25	.50	n.s.
Assert X Treat	4, 64	1.20	n.s.

TABLE 4

PAIRED COMPARISON t-TESTS
PRE1 with PRE2

Depression	t=2.93	df=38	$p < .01$
State Anxiety	t=1.44	df=39	n.s.
Trait Anxiety	t=1.76	df=38	n.s.
Assertiveness	t=1.02	df=39	n.s.

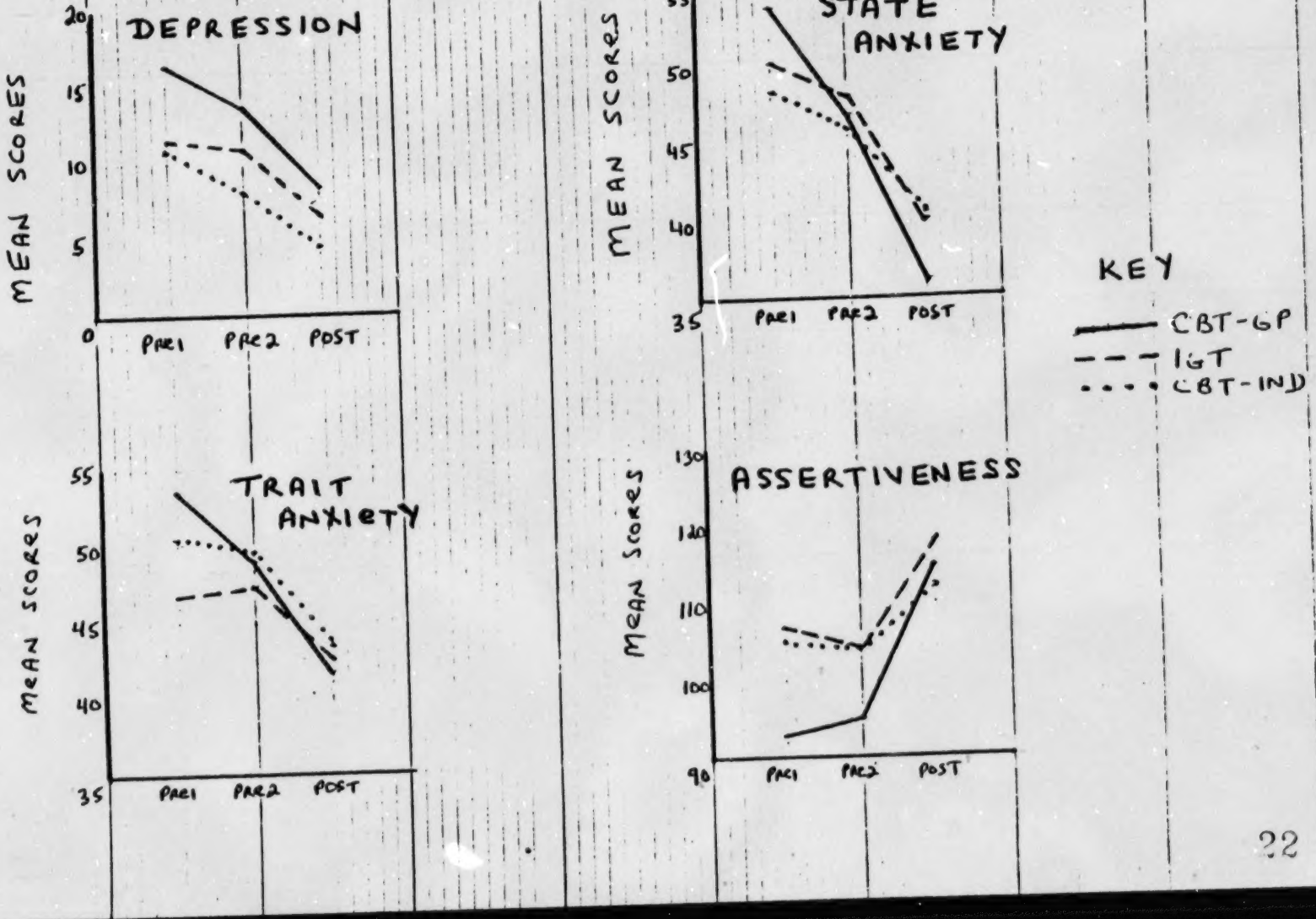
TABLE 5

PEARSON PRODUCT MOMENT CORRELATIONS
PRE1, PRE2, AND POST SCORES

	Depression	State Anxiety	Trait Anxiety	Assertiveness
PRE1				
Depression	1.00			
State Anxiety	.41	1.00		
Trait Anxiety	.73	.35	1.00	
Assertiveness	-.53	-.41	-.49	1.00
PRE2				
Depression	1.00			
State Anxiety	.53	1.00		
Trait Anxiety	.62	.50	1.00	
Assertiveness	-.31	-.30	-.44	1.00
POST				
Depression	1.00			
State Anxiety	.62	1.00		
Trait Anxiety	.72	.73	1.00	
Assertiveness	-.44	-.33	-.54	1.00

$r_{.05}=.32$ $r_{.01}=.42$ $r_{.001}=.52$

MEAN SCORES ON FOUR DEPENDENT MEASURES OVER TWO PRETESTS AND POSTTEST TRIALS FOR THREE TREATMENT MODALITIES



REFERENCES

Bandura, A. Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 1977, 84, 191-215.

Beck, A.T. Beck's Depression Inventory. In Depression: Causes and Treatment. Philadelphia, Pennsylvania: University of Pennsylvania Press, 1972.

Beck, A.T. Cognitive therapy and the emotional disorders. New York: International Universities Press, 1976.

Beck, A.T. Depression: Clinical, experimental and therapeutic aspects. New York: Harper & Row, 1967.

Beck, A.T. & Beamesderfer, A. Assessment of depression: The depression inventory. In P. Pichot (Ed.) Psychological Measurements in Psychopharmacology, Basel: Karger, 1974, pp. 151-169.

Beck, A.T. & Greenberg, R.L. Coping with depression. New York: Institute for Rational Living, 1974.

Beck, A.T., Rush, A.J., Shaw, B.F., & Emery, G. Cognitive therapy of depression: A treatment manual. New York: Guilford Press, 1978.

Benson, H. The relaxation response. New York: William Morrow & Co., Inc., 1975.

Ellis, A. Reason and emotion in psychotherapy. New York: Lyle Stuart, 1962.

Ellis, A., & Harper, R. A new guide to rational living. North Hollywood, California: Wilshire, 1975.

Follette, W. & Cummings, N.A. Psychiatric services and medical utilization in a pre-paid health plan setting. Medical Care, 1967, 5, 25-35.

Gay, M., Hollandsworth, J. & Galassi, J. Adult self-expression scale. Charlotte, North Carolina, 1975.

Gioe, V.J. Cognitive modification and positive group experience as a treatment for depression (Doctoral dissertation, Temple University, 1975). Dissertation Abstracts International, 1975, 36, 3039B-3040B (University Microfilm No. 75-28, 219).

Jacobson, E. You must relax. New York: McGraw Hill Book Co., 1962.

Lange, A. & Jakubowski, P. Responsible assertive behavior. Champaign, Illinois: Research Press, 1976.

Lewinsohn, P. The behavioral study and treatment of depression. In M. Hersen, R.M. Eisler, & P.M. Miller (Eds.), Progress in behavior modification (Vol. 1). San Francisco: Academic Press, 1975.

Morris, N.E. A group self-instruction method for the treatment of depressed outpatients (Doctoral dissertation, University of Toronto, 1975).

Myers, J.K. & Bean, L.L. A decade later: A follow-up of social class and mental illness. New York: John Wiley & Sons, 1968.

Rosen, J.C. & Wiens, A.N. Change in medical problems and use of medical services following psychological intervention, American Psychologist, 1979, 34, 420-431.

Rush, A.J., Beck, A.T., Kovacs, M., & Hollon, S.D. Comparative efficacy of cognitive therapy and imipramine in the treatment of depressed outpatients. Cognitive Therapy and Research, 1977, 1, 11-37.

Rush, A.J., Khatami, M., & Beck, A.T. Cognitive and behavioral therapy in chronic depression. Behavior Therapy, 1975, 6, 398-404.

Rush, A.J., & Watkins, J.T. Group versus individual cognitive therapy: A pilot study. Unpublished manuscript, Southwestern Medical School, Dallas, Texas, 197

Schmickley, V.G. The effects of cognitive behavior modification upon depressed outpatients (Doctoral dissertation, Michigan State University, 1976). Dissertation Abstracts International, 1976, 37, 987-988B. (University Microfilms No. 76-18, 675).

Shaw, B.F. Comparison of cognitive therapy and behavior therapy in the treatment of depression. Journal of Consulting and Clinical Psychology, 1977, 45, 543-55

Shaw, B.F. & Hollon, S.D. Cognitive therapy in a group format with depressed outpatients. Unpublished manuscript, University of Western Ontario, London, Ontario, 1978.

Shipley, C. & Fazio, A. Pilot study of a treatment for psychological depression. Journal of Abnormal Psychology, 1973, 83, 372-376.

Smith, M.J. When I say no I feel guilty. New York: Dial Press, 1975.

Speilberger, C.D., Gorsuch, R.L., & Lushene, R.E. State-Trait Anxiety Inventory. Palo Alto, California: Consulting Psychologist Press, 1970.

Taylor, F.G. & Marshall, W.L. Experimental Analysis of a cognitive behavioral therapy for depression. Cognitive Therapy and Research, 1977, 1, 59-72.

Weissman, A.N. & Beck, A.T. Development and validation of the dysfunctional attitude scale. Paper presented at the annual meeting of the Association of Advancement of Behavior Therapy. Chicago, 1978.

Zeiss, A.M., Lewinsohn, P.M., & Munoz, R.F. Nonspecific improvement effects in depression using interpersonal skills training, pleasant activity schedules, or cognitive training. Journal of Consulting and Clinical Psychology, 1979, 47, 427-439.